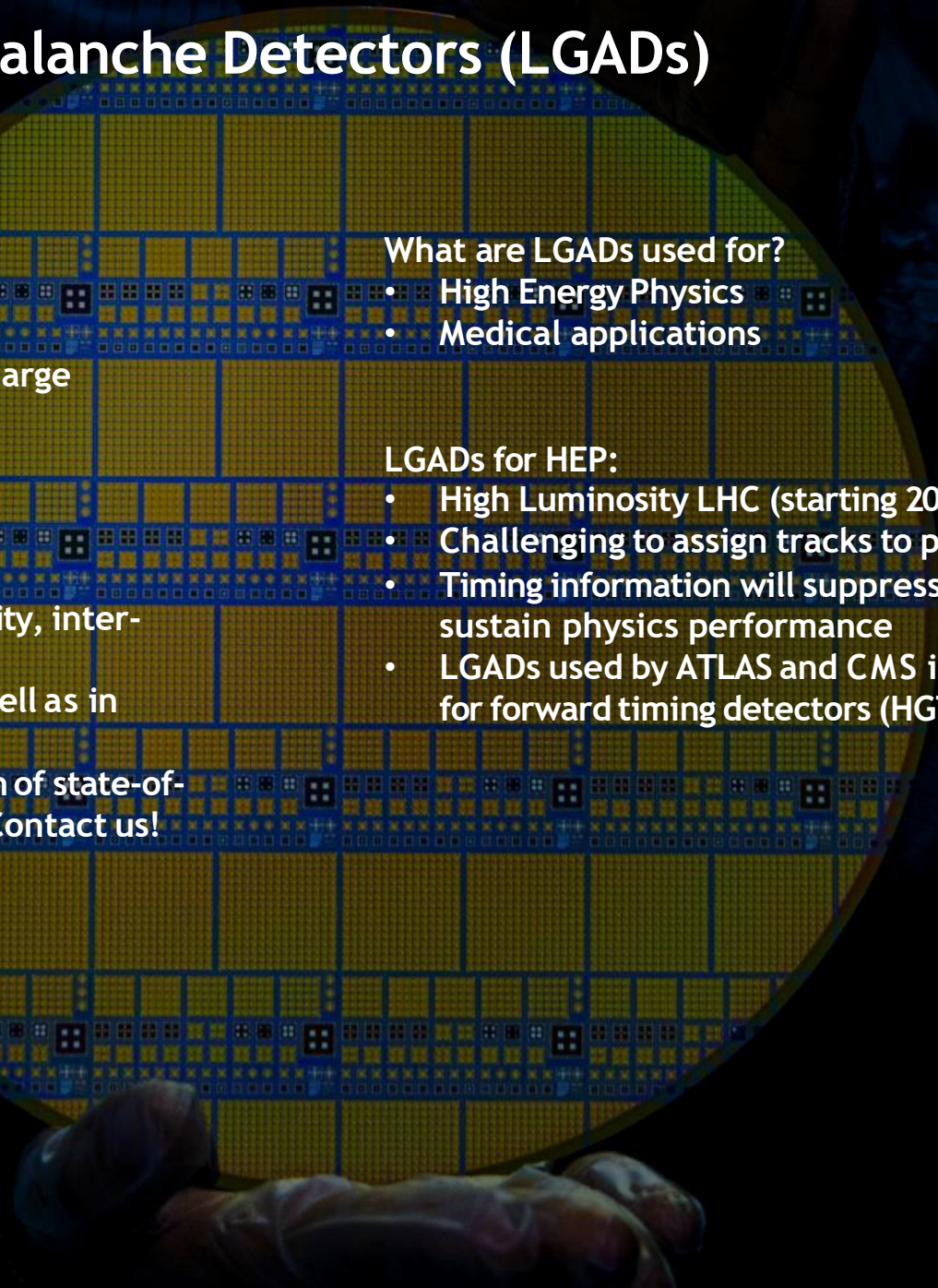
JOHANNES GUTENBERG UNIVERSITÄT MAINZ

Low Gain Avalanche Detectors (LGADs)



What are LGADs?
- Novel sensing technology (2014)
- Silicon sensors
- Excellent time resolution (down to 30ps) due to charge multiplication layer
- High granularity (~1mm pitch)

Do you want to play with LGADs yourself?
- Tests done with laser and radioactive source
- Extract time resolution, collected charge, uniformity, inter-pad properties, performance after irradiation, ...
- Improve your skills in hands-on lab activities as well as in data analysis
- Are you eager to contribute to the characterization of state-of-the-art detectors used in real HEP experiments? Contact us!

What are LGADs used for?
- High Energy Physics
- Medical applications

LGADs for HEP:
- High Luminosity LHC (starting 202G) → High pile-up
- Challenging to assign tracks to primary vertices
- Timing information will suppress pile-up and help sustain physics performance
- LGADs used by ATLAS and CMS in Phase-II Upgrade for forward timing detectors (HGTD and ETL)

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